II. CLAIM LISTING

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Previously presented) A method for disassembling a toner cartridge having thermoplastic joining surfaces comprising:

providing a toner cartridge having sections joined along interfacing thermoplastic joining surfaces, said joining surfaces comprising a plurality of interface line segments, each interface line segment having a thickness;

determining the thickness of each said interface line segment;

removably retaining said toner cartridge in a gimbal having at least one axis of rotation;

providing a laser having a predetermined laser beam power and adapted to produce a laser beam capable of cutting through thermoplastic materials;

providing a moveably adjustable light path;

directing the laser beam from said laser to said container along said moveably adjustable light path;

providing a computer processor operationally connected with said gimbal, said laser and said moveably adjustable light path;

controlling operation of said laser, said gimbal and said moveably adjustable light path by said computer processor in response to a computer program;

causing said laser beam to trace a path along each said line segment of the interface between said joining surfaces by moving the moveably adjustable light path and the gimbal in response to said computer program and at a predetermined speed;

determining said speed by correlating the thickness of each said interface line segment with said laser beam power;

cutting through the thermoplastic along said interface with said laser beam;

removing said container from said gimbal; and

separating said container sections along the cut interface between joining surfaces.

7. (Currently amended) A disassembled toner cartridge made from an original toner cartridge having thermoplastic joining surfaces and said disassembled toner cartridge suitable to be remanufactured or reassembled comprising:

a disassembled original toner cartridge having sections with thermoplastic joining surfaces adapted to be sealingly joined along an interface between said joining surfaces and along a three dimensional, serpentine path to achieve alignment and orientation necessary for proper operation;

electrical conductors required for proper function of said original toner cartridge and positioned adjacent said interface between said joining surfaces of said original toner cartridge remaining undamaged in said disassembled toner cartridge;

said interface having been cut through with a laser beam;

operational functional elements; and

separated container sections.

8. (Previously presented) The disassembled container of claim 7 wherein:

said interface between joining surfaces has a circuitous configuration.

9. (Previously presented) The disassembled container of claim 7 wherein:

said container may be reassembled along said interface between joining surfaces.

10. (Previously presented) The disassembled container of claim 7 wherein:

said joining surfaces are composed of Acrylonitrile Butadiene Styrene.

11. (Previously presented) The disassembled toner cartridge of claim 7 wherein:

said joining surfaces are composed of a thermoplastic material having a melting temperature in the same melting temperature range as Acrylonitrile Butadiene Styrene polymers.

12. (Canceled)

13. (Canceled)

14. (Previously presented) A disassembled toner cartridge formed from an assembled toner cartridge having interfacing thermoplastic joining surfaces along a three dimensional, serpentine path, having surfaces formed at the interfacing thermoplastic joining surfaces along the three dimensional, serpentine path and by the method of claim 6.

15. (Previously presented) A method for disassembling a laser printer toner cartridge having adjoining sections joined at thermoplastic joining surfaces into cut sections comprising:

executing a set-up procedure comprising:

(a) providing a toner cartridge including electrical conductors passing very near to the joining surfaces of the adjoining sections, said joining surfaces comprising a plurality of n interface line segments, each of said n interface line segments having a thickness;

(b) providing a computer implemented laser cutting system including a computer, a laser adapted to project a laser beam, a gimbal positioned in an initial gimbal position and adapted to move in one dimension, and a moveably adjustable light path;

(c) determining the thickness of the thermoplastic material along each of the n line segments;

(d) determining laser beam intensity and laser beam speed of travel along each of the n line segments sufficient to cut through the thickness of the thermoplastic material along each of the n line segments without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections;

(e) retaining the cartridge in the gimbal that is in the initial gimbal position;

(f) entering and storing into the computer data representative of the initial gimbal position;

(g) selecting an initial point of a selected line segment of the n line segments;

(h) entering and storing into the computer instructions to position the movably adjustable light path to direct the laser beam onto the initial point on the selected line segment and to trace the selected line segment for a predetermined distance to a second point on the selected line segment to thereby define a laser beam path for the selected line segment;

(i) determining whether a change in position of the gimbal from the initial gimbal position is required to enable the predetermined distance of the selected line segment to be traced by the laser beam, and if so required, entering and storing into the computer (i) instructions to move the gimbal to a selected new gimbal position that will enable the predetermined distance of the selected line segment to be traced by the laser beam, (ii) the new gimbal position and (iii) when the gimbal is to be moved to the new gimbal position, and if not so required, proceeding to;

(j) entering and storing into the computer (i) instructions to project the laser beam along the selected line segment for the predetermined distance from the initial point to the second point, (ii) the laser beam path and (iii) the second point;

(k) entering and storing into the computer instructions for (i) speed of movement of the laser beam from the initial point to the second point and (ii) intensity of the laser beam to cut through the thermoplastic material from the initial point to the second point along the selected line segment;

(l) repeating steps (g) through (k) above for each of the n line segments for n-1 repetitions, wherein in the each of the n-1 repetitions of steps (g) though (k) the second point becomes the initial point for the next repetition to complete the set up procedure;

executing a cutting procedure comprising:

(m) operating the laser, gimbal and movably adjustable light path to trace the laser beam at predetermined speeds and intensities for each of the n line segments along each of the beam paths to cut through the cartridge along each such path without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections to cut the cartridge into cut sections; and,

removing the cut sections from the gimbal.

16. (Currently amended) A method of disassembling a laser printer toner cartridge with a computer implemented laser cutting system, the cartridge having components aligned and oriented for proper printing operation, the cartridge having sections joined at interface joining surfaces in a path extending in three dimensions and including n line segments and the cartridge containing electrical conductors passing near to the interface joining surfaces of adjoining sections comprising:

(a) choosing a cartridge of a predetermined style, type or model;

(b) selecting via an input device in the computer implemented system predetermined set up information for the cartridge that will enable the cutting through each of the n line

segments by a projected laser beam without impinging on any electrical conductor in the cartridge near any of the n line segments; and,

(c) operating the system to trace the projected laser beam at predetermined speeds and predetermined intensities along a predetermined path coincident with each of the n line segments [line of n interface lines] to cut through the cartridge at each such line segment and without impinging on any electrical conductor in the cartridge near any of the n line segments and to form disassembled cartridge segments [; and,

(d) removing the cartridge segments from the gimbal].

17. (Previously presented) A method for disassembling a laser printer toner cartridge having adjoining sections joined at thermoplastic joining surfaces into cut sections comprising:

executing a set-up procedure comprising:

(a) providing a toner cartridge including electrical conductors passing very near to the joining surfaces of the adjoining sections, said joining surfaces comprising a plurality of interface line segments, each of said interface line segments having a thickness;

(b) providing a computer implemented laser cutting system including a computer, a laser adapted to project a laser beam, a gimbal positioned in an initial gimbal position, and a movably adjustable light path;

(c) determining the thickness of the thermoplastic material along each of the line segments;

(d) determining laser beam intensity and laser beam speed of travel along each of the line segments sufficient to cut through the thickness of the thermoplastic material along each of the line segments without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections;

(e) retaining the cartridge in the gimbal that is in the initial gimbal position;

(f) entering and storing into the computer data representative of the initial gimbal position;

(g) selecting an initial point of a selected line segment of the line segments;

(h) entering and storing into the computer instructions to position the movably adjustable light path to direct the laser beam onto the initial point on the selected line segment and to trace the selected line segment for a predetermined distance to a second point on the selected line segment to thereby define a laser beam path for the selected line segment;

(i) determining whether a change in position of the gimbal from the initial gimbal position is required to enable the predetermined distance of the selected line segment to be traced by the laser beam, and if so required, entering and storing into the computer (i) instructions to move the gimbal to a selected new gimbal position that will enable the predetermined distance of the selected line segment to be traced by the laser beam, (ii) the new gimbal position and (iii) when the gimbal is to be moved to the new gimbal position, and if not so required, proceeding to;

(j) entering and storing into the computer (i) instructions to project the laser beam along the selected line segment for the predetermined distance from the initial point to the second point, (ii) the laser beam path and (iii) the second point;

(k) entering and storing into the computer instructions for (i) speed of movement of the laser beam from the initial point to the second point and (ii) intensity of the laser beam to cut through the thermoplastic material from the initial point to the second point along the selected line segment;

(l) repeating steps (g) through (k) above for each of the line segments until all of the line segments have gone through the set-up procedure, wherein in the each of the repetitions of steps (g) though (k) the second point becomes the initial point for the next repetition to complete the set up procedure;

executing a cutting procedure comprising:

(m) operating the laser, gimbal and optical system to trace the laser beam at predetermined speeds and intensities for each of the line segments along each of the beam paths to cut through the cartridge along each such path without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections to cut the cartridge into cut sections; and,

removing the cut sections from the gimbal.

18. (Currently amended) A method of disassembling a thermoplastic laser printer toner cartridge with a computer implemented laser cutting system, the cartridge having components aligned and oriented for proper printing operation, the cartridge having sections joined at interface joining surfaces in a serpentine path of line segments and the cartridge containing electrical conductors passing near to the interface joining surfaces of adjoining sections comprising:

(a) choosing a cartridge of a predetermined style, type or model;

(b) selecting via an input device in the computer implemented system predetermined set up information for the cartridge that will enable the cutting through each of the line segments by the projected laser beam without impinging on any electrical conductor near any of the line segments; and,

(c) operating the system to trace the projected laser beam at predetermined speeds and predetermined intensities along a predetermined path coincident with each line segment [of interface lines] to cut through the cartridges at each such line segment and without impinging on any electrical conductor in the cartridge near any of the line segments and to form disassembled cartridge segments [; and,

(d) removing the cartridge segments from the gimbal].

19. (New) A method for disassembling a toner cartridge having thermoplastic joining surfaces comprising:

providing a toner cartridge having sections joined along interfacing thermoplastic joining surfaces, said joining surfaces comprising a plurality of interface line segments, each interface line segment having a thickness;

determining the thickness of each said interface line segment;

removably retaining said toner cartridge in a clamp having at least one axis of rotation;

providing a laser having a predetermined laser beam power and adapted to produce a laser beam capable of cutting through thermoplastic materials;

providing a moveably adjustable light path;

directing the laser beam from said laser to said container along said moveably adjustable light path;

providing a computer processor operationally connected with said clamp, said laser and said moveably adjustable light path;

controlling operation of said laser, said clamp and said moveably adjustable light path by said computer processor in response to a computer program;

causing said laser beam to trace a path along each said line segment of the interface between said joining surfaces by moving the moveably adjustable light path and the clamp in response to said computer program and at a predetermined speed;

determining said speed by correlating the thickness of each said interface line segment with said laser beam power;

cutting through the thermoplastic along said interface with said laser beam;

removing said container from said clamp; and

separating said container sections along the cut interface between joining surfaces.

20. (New) A method for disassembling a toner cartridge having thermoplastic joining surfaces comprising:

providing a toner cartridge having sections joined along interfacing thermoplastic joining surfaces, said joining surfaces comprising a plurality of interface line segments, each interface line segment having a thickness;

determining the thickness of each said interface line segment;

removably retaining said toner cartridge in a holder having at least one axis of rotation;

providing a laser having a predetermined laser beam power and adapted to produce a laser beam capable of cutting through thermoplastic materials;

providing a moveably adjustable light path;

directing the laser beam from said laser to said container along said moveably adjustable light path;

providing a computer processor operationally connected with said holder, said laser and said moveably adjustable light path;

controlling operation of said laser, said holder and said moveably adjustable light path by said computer processor in response to a computer program;

causing said laser beam to trace a path along each said line segment of the interface between said joining surfaces by moving the moveably adjustable light path and the holder in response to said computer program and at a predetermined speed;

determining said speed by correlating the thickness of each said interface line segment with said laser beam power;

cutting through the thermoplastic along said interface with said laser beam;

removing said container from said holder; and

separating said container sections along the cut interface between joining surfaces.

21. (New) A method for disassembling a toner cartridge having thermoplastic joining surfaces comprising:

providing a toner cartridge having sections joined along interfacing thermoplastic joining surfaces, said joining surfaces comprising a plurality of interface line segments, each interface line segment having a thickness;

determining the thickness of each said interface line segment;

removably retaining said toner cartridge in a rotation device having at least one axis of rotation;

providing a laser having a predetermined laser beam power and adapted to produce a laser beam capable of cutting through thermoplastic materials;

providing a moveably adjustable light path;

directing the laser beam from said laser to said container along said moveably adjustable light path;

providing a computer processor operationally connected with said rotation device, said laser and said moveably adjustable light path;

controlling operation of said laser, said rotation device and said moveably adjustable light path by said computer processor in response to a computer program;

causing said laser beam to trace a path along each said line segment of the interface between said joining surfaces by moving the moveably adjustable light path and the rotation device in response to said computer program and at a predetermined speed;

determining said speed by correlating the thickness of each said interface line segment with said laser beam power;

cutting through the thermoplastic along said interface with said laser beam;

removing said container from said rotation device; and

separating said container sections along the cut interface between joining surfaces.

22. (New) A method for disassembling a laser printer toner cartridge having adjoining sections joined at thermoplastic joining surfaces into cut sections comprising:

executing a set-up procedure comprising:

(a) providing a toner cartridge including electrical conductors passing very near to the joining surfaces of the adjoining sections, said joining surfaces comprising a plurality of n interface line segments, each of said n interface line segments having a thickness;

(b) providing a computer implemented laser cutting system including a computer, a laser adapted to project a laser beam, a rotation device positioned in an initial rotation device position and adapted to move in one dimension, and a moveably adjustable light path;

(c) determining the thickness of the thermoplastic material along each of the n line segments;

(d) determining laser beam intensity and laser beam speed of travel along each of the n line segments sufficient to cut through the thickness of the thermoplastic material along each of the n line segments without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections;

(e) retaining the cartridge in the rotation device that is in the initial rotation device position;

(f) entering and storing into the computer data representative of the initial rotation device position;

(g) selecting an initial point of a selected line segment of the n line segments;

(h) entering and storing into the computer instructions to position the movably adjustable light path to direct the laser beam onto the initial point on the selected line segment and to trace the selected line segment for a predetermined distance to a second point on the selected line segment to thereby define a laser beam path for the selected line segment;

(i) determining whether a change in position of the rotation device from the initial rotation device position is required to enable the predetermined distance of the selected line segment to be traced by the laser beam, and if so required, entering and

storing into the computer (i) instructions to move the rotation device to a selected new rotation device position that will enable the predetermined distance of the selected line segment to be traced by the laser beam, (ii) the new rotation device position and (iii) when the rotation device is to be moved to the new rotation device position, and if not so required, proceeding to;

(j) entering and storing into the computer (i) instructions to project the laser beam along the selected line segment for the predetermined distance from the initial point to the second point, (ii) the laser beam path and (iii) the second point;

(k) entering and storing into the computer instructions for (i) speed of movement of the laser beam from the initial point to the second point and (ii) intensity of the laser beam to cut through the thermoplastic material from the initial point to the second point along the selected line segment;

(l) repeating steps (g) through (k) above for each of the n line segments for n-1 repetitions, wherein in the each of the n-1 repetitions of steps (g) though (k) the second point becomes the initial point for the next repetition to complete the set up procedure;

executing a cutting procedure comprising:

(m) operating the laser, rotation device and movably adjustable light path to trace the laser beam at predetermined speeds and intensities for each of the n line segments along each of the beam paths to cut through the cartridge along each such path without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections to cut the cartridge into cut sections; and,

removing the cut sections from the rotation device.

23. (New) A method for disassembling a laser printer toner cartridge having adjoining sections joined at thermoplastic joining surfaces into cut sections comprising:

executing a set-up procedure comprising:

(a) providing a toner cartridge including electrical conductors passing very near to the joining surfaces of the adjoining sections, said joining surfaces comprising a plurality of interface line segments, each of said interface line segments having a thickness;

(b) providing a computer implemented laser cutting system including a computer, a laser adapted to project a laser beam, a rotation device positioned in an initial rotation device position, and a movably adjustable light path;

(c) determining the thickness of the thermoplastic material along each of the line segments;

(d) determining laser beam intensity and laser beam speed of travel along each of the line segments sufficient to cut through the thickness of the thermoplastic material along each of the line segments without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections;

(e) retaining the cartridge in the rotation device that is in the initial rotation device position;

(f) entering and storing into the computer data representative of the initial rotation device position;

(g) selecting an initial point of a selected line segment of the line segments;

(h) entering and storing into the computer instructions to position the movably adjustable light path to direct the laser beam onto the initial point on the selected line segment and to trace the selected line segment for a predetermined distance to a second point on the selected line segment to thereby define a laser beam path for the selected line segment;

(i) determining whether a change in position of the rotation device from the initial rotation device position is required to enable the predetermined distance of the selected line segment to be traced by the laser beam, and if so required, entering and storing into the computer (i) instructions to move the rotation device to a selected new

rotation device position that will enable the predetermined distance of the selected line segment to be traced by the laser beam, (ii) the new rotation device position and (iii) when the rotation device is to be moved to the new rotation device position, and if not so required, proceeding to;

(j) entering and storing into the computer (i) instructions to project the laser beam along the selected line segment for the predetermined distance from the initial point to the second point, (ii) the laser beam path and (iii) the second point;

(k) entering and storing into the computer instructions for (i) speed of movement of the laser beam from the initial point to the second point and (ii) intensity of the laser beam to cut through the thermoplastic material from the initial point to the second point along the selected line segment;

(l) repeating steps (g) through (k) above for each of the line segments until all of the line segments have gone through the set-up procedure, wherein in the each of the repetitions of steps (g) though (k) the second point becomes the initial point for the next repetition to complete the set up procedure;

executing a cutting procedure comprising:

(m) operating the laser, rotation device and optical system to trace the laser beam at predetermined speeds and intensities for each of the line segments along each of the beam paths to cut through the cartridge along each such path without impinging on any electrical conductor passing very near to the joining surfaces of adjoining sections to cut the cartridge into cut sections; and,

removing the cut sections from the rotation device.